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MICHIGAN AGRICULTURAL COLLEGE

EXPERIMENT STATION

HORTICULTURAL SECTION

TREES, SHRUBS AND PLANTS FOR FARM AND HOME PLANTING

BY

C. P. HALLIGAN

EAST LANSING, MICHIGAN
1918

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Feb. 4, 1919

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TREES SHRUBS AND PLANTS FOR FARM AND HOME PLANTING

BY C. P. Halligan

INTRODUCTION

Why One Should Plant.

(a) Because of a desire to make the farm home a better place in which to live.

The rural ideal today of making the country a better place in which to live begins with the improvement of the interior conveniences of the house and the exterior surroundings of the home. The attachments that are formed for the home are frequently associated with the trees, shrubs and flowers that surround it. A farm house standing out in its nakedness to the severest storms of winter and the torrid heat of summer with no trees to shelter it or shrubs to clothe it, is hardly conducive to the formation of loving thoughts and tender memories. From such farms the young folks migrate to the cities and the old folks to the towns. If the farm is worth farming, then the grounds about the house are worth developing into a pleasing home grounds.

(b) Because it is one's duty to plant.

Every man owes it to his family, his neighbors and his community to develop his property and maintain it in as neat and attractive a manner as his means will permit.

The environment of children to a large degree measures their ideals. Noble characters and lofty ideals are not formed amid unclean and unkempt surroundings. Healthy children with wholesome thoughts demand an environment that is healthful, clean and inspiring.

The value of property for living purposes depends considerably upon the general appearance of the surrounding property. It no longer remains a personal privilege for one to neglect the appearance of his grounds as such neglect detracts from the value of the property of his neighbors as well as from his own.

A community that is characterized by pleasing homes that are neat and trim in appearance constitutes an inviting location for desirable people seeking new farm sites. The value of such farm properties is measured upon this factor as well as upon the general productive value of the land. It is a public duty, therefore, of all who are fortunate enough to possess a bit of land surrounding the house, to make the place as pleasing, interesting and livable as a home grounds should be that its attractiveness may enhance the beauty of the street and community of which it is a part.

(c) Because it is a good financial investment.

A few dollars and a little labor spent in developing and improving the home grounds, in properly planting a few trees and in arranging shrubs around the grounds, will, in a few years, often increase the financial value of the property more than a similar amount spent in any other manner.

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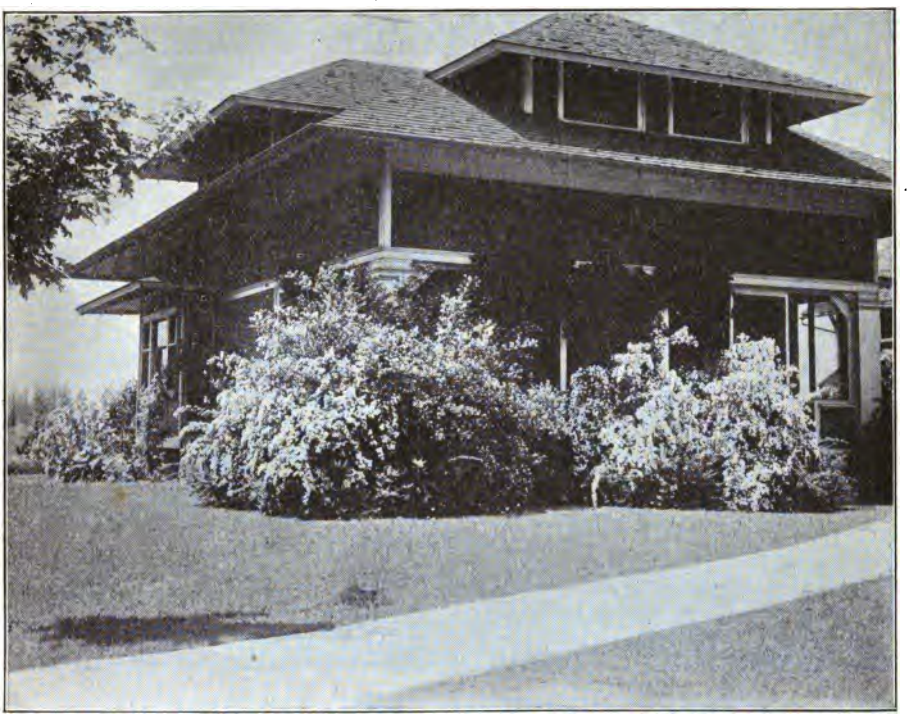
Before Planting. Is planting worth while? A house with no trees to shelter it or shrubs to clothe it. See the following picture.

roads, the dust nuisance becomes a very serious problem, the principal solution of which consists in keeping the house well back from the road and sometimes planting heavily along the roadside.

In selecting the site for the house, advantage should be taken of any vistas that are especially pleasing. If the house is placed so as to obtain a beautiful view over a lake, along a river or across a valley, it will enhance the value of the property without increasing its cost. Today, with the ever increasing demand for country homes, these vistas prove very desirable assets.

It is well also, in selecting a site, to consider the *exposure*. A site that is more or less protected from the north and west with an open exposure to the south and east, is ideal. On many farms, a site sheltered by a woods, hill or other natural condition, may be found which would prove a great protection during the winter months. Whether or not these conditions are available, there is always room enough on the farm to place the buildings in such a way as to receive the greatest amount of sunlight, especially during the winter. Whereas it seems to be the prevalent opinion that a building should run directly north and south or east and west, it is these problems of sunshine and exposure that should determine its direction.

Any topographical feature of the land might also largely determine the location of a building. The position of a group of large trees or a rugged boulder might prove the chief determinant.



After Planting. Same place as preceding picture but about three years later. Was planting worth while?

A slight knoll generally makes an ideal site for a building. If the land is level and such a spot is not available, a building should be set rather high on its foundation and the soil from the excavation with a little additional filling, will tend to obtain at least a portion of these advantages. On farms that are hilly and rough, ideal sites may be found,—sites, too, that would prove of very little value for farming purposes.

THE PLANTING PLAN

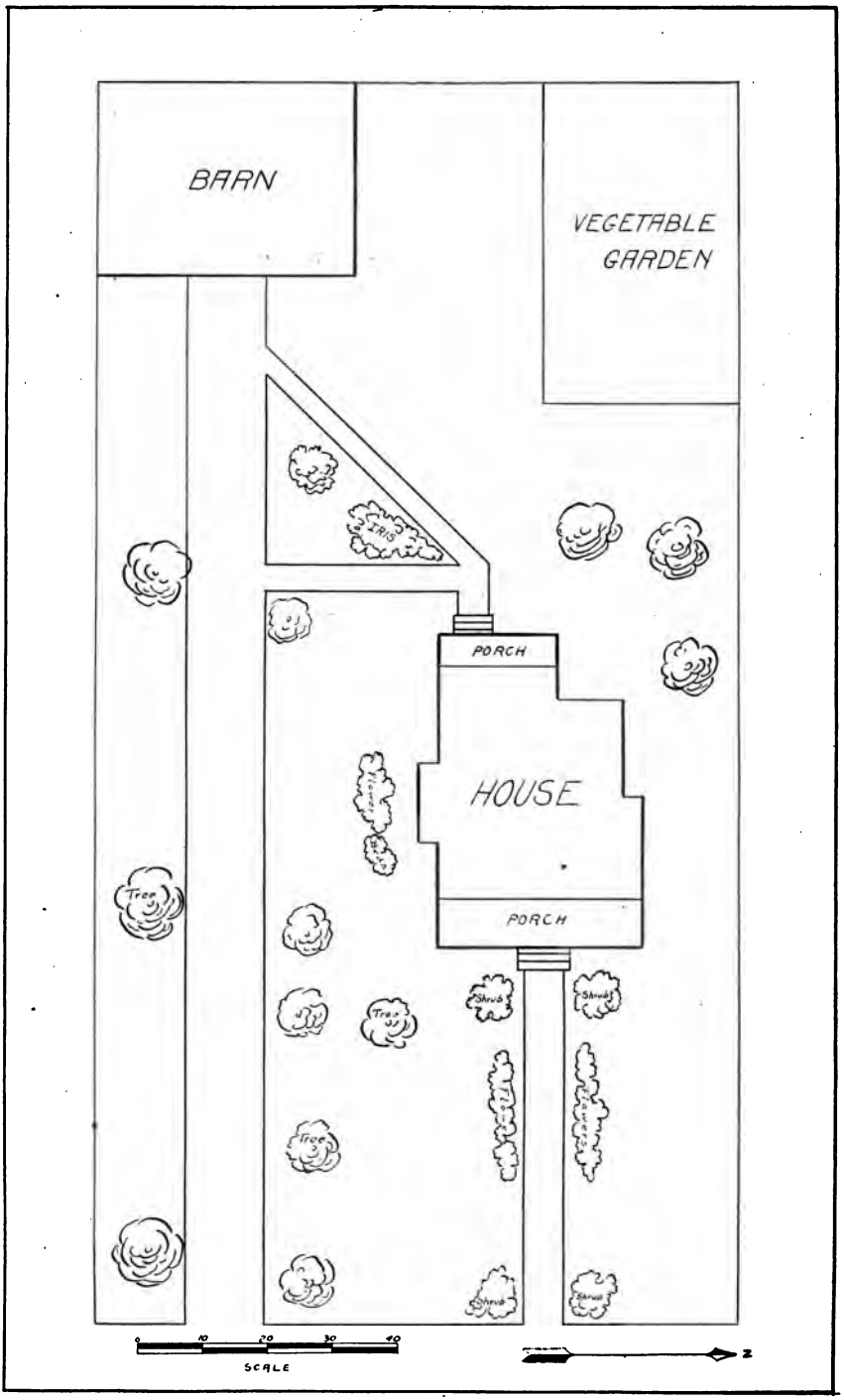
In the development of the home grounds, there is need of a preconceived plan. This plan should be conceived in a general way when the building sites are being selected but the details may best be worked out after the buildings have been constructed and the drives and walks have been laid out. While the need for a plan is real and its existence essential, there is no necessity of carrying it out all at once. The execution of the plan may be gradual; the most important parts of it may be developed first and the remaining parts as circumstances permit. In fact, this gradual development is often desirable as the experience gained the first year or so often suggests desirable changes for future work. Under such conditions, a plan drawn to a definite scale, furnishing a definite record for future reference, is very essential as it insures the progressive development of the scheme that otherwise might be forgotten.

Masses of hardy shrubs about the foundation of the house tend to harmonize it with its site.

GENERAL DIVISIONS

An ideal landscape development of the home grounds involves a study of the general arrangement of the various divisions of the grounds to make them as serviceable and livable as possible. For example, there should be a service division for performing the necessary but often unsightly functions of a dwelling; a place for the ingress and storing of supplies and the egress of wastes; a lawn for the drying of clothes, a vegetable garden and places for any other such desirable purposes as the amount of available space will permit. This division should be designed to perform these functions most conveniently and to be maintained in a most tidy manner. It has been said that the typical American style of development about the home grounds consists in maintaining a "Queen Anne front and a Mary Ann back." This typical unsightly appearance of many back yards is largely due to an arrangement of the service division that does not conveniently and thoroughly serve these necessary functions.

The entrance division of the property usually includes the front lawn and entrance walks and generally is that portion of the property by which the public receives its impression of the entire place. The walks should be apparently direct and convenient while the appearance of the division, as a whole, should be trim and tidy, simple, dignified, hospitable and harmonious. Often there may well be other divisions, as a living division where the family may enjoy the privacy of family life out-of-doors without



An improperly planned home grounds showing the walks and drive ill-arranged and the plantings cluttering the lawns. **(See Page 11)**

being in full view of the neighbors and every passerby. A study of the general arrangement and coordination of these divisions is the first step in the development of the home grounds. It simply answers the question of what purposes the home grounds are to serve and what general arrangement of the grounds will serve such purposes in the most convenient and pleasing manner.

SOME DETAIL PROBLEMS

Grading. After this general arrangement of the grounds has been determined, the more detailed problems of improvement may be undertaken. Usually there is more or less grading that should be done and this work may prove very expensive without giving very gratifying results unless a careful study is made to adapt the new grades to the existing ones. Ideal grades should produce a proper setting for the house, making it appear somewhat higher than the surrounding property; provide surface drainage away from the buildings and for all portions of the lawn and smooth off all the small irregularities over the surface of the lawn. A building will possess an ideal setting as far as grades are concerned when it appears to be located on the summit of a slight knoll with the land

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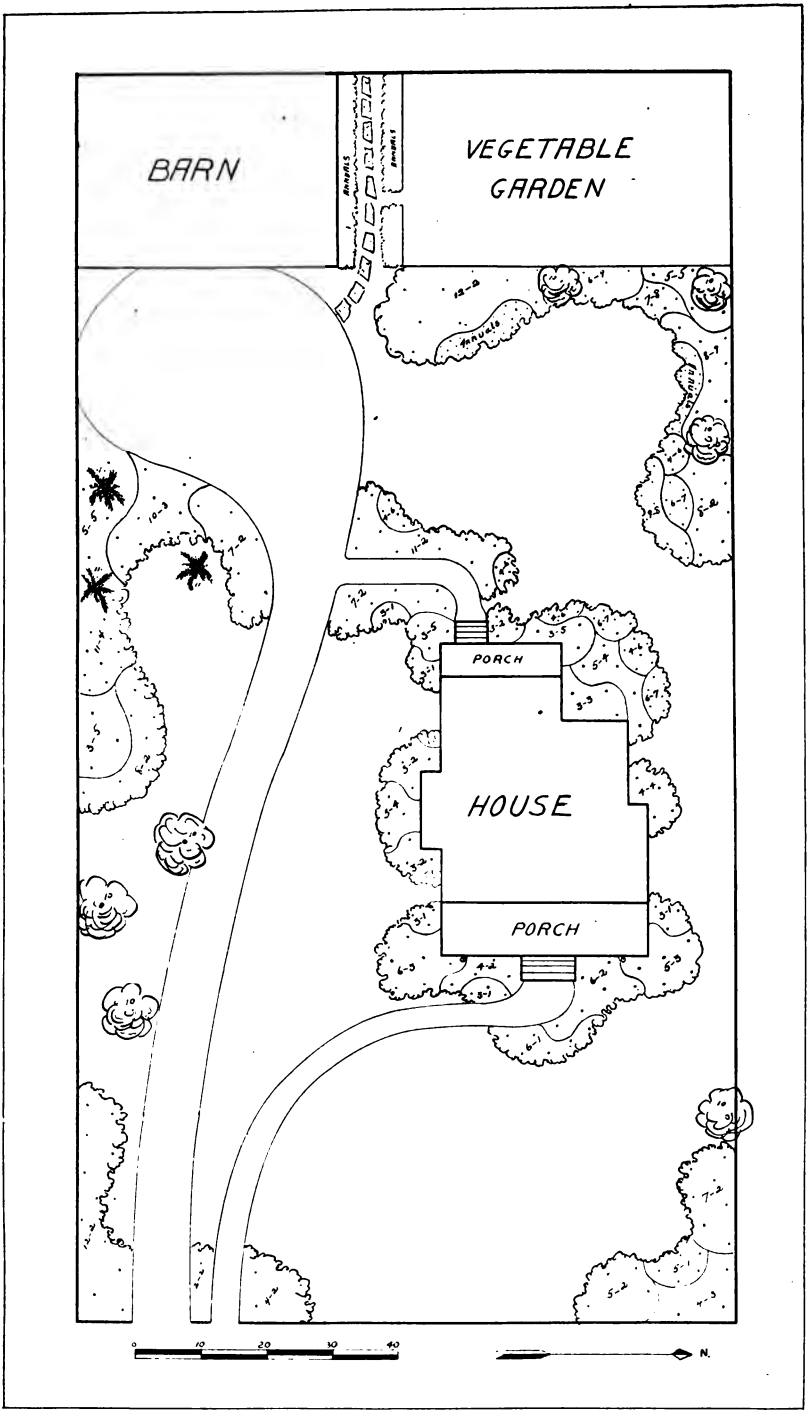
Explanation of Planting Plan on Page Eleven

This design shows a desirable location for a house and barn on a small suburban lot in reference to the exposure and distances from the sides and front of the lot. The drive is so designed and planted as to screen the view of the barn and its service yard from the road. The plantings consist largely of masses of hardy shrubs disposed around the foundation of the house, the boundaries and corners of the lot, leaving an unbroken lawn in front and a well screened and protected back lawn. A few trees are so disposed as to frame the view of the house from the road, to aid in screening the barn and to produce some shade over the back lawn. Hardy perennials and annuals are massed in the foreground of the shrubbery plantings about the back lawn and along the stepping-stone walk leading to the garden and back of the lot.

The first number in the mass plantings indicates the number of plants to be used, the dots showing the location of each, while the number after the dash is the index number of the kind to be used.

Index number	*Common name of plant*	*Latin name*
I	Japanese Barberry	Berberis Thunbergii
II	Bridal Wreath Spirea	Spiraea Vanhouttei
III	Tartarian Honeysuckle	Lonicera Tartarica var. grand. rosea
IV	Japanese Rose	Rosa Rugosa
V	Lilac	Syringa (*In Variety*)
VI	Paeony	Paeonia (*In Variety*
VII	German Iris	Iris Germanica (*In Variety*)
VIII	Hardy Phlox	Phlox decussata (*In Variety*)
IX	Lemoines Deutzia	Deutzia Lemoinei
X	Deciduous Tree	
XI	Evergreen	
o	Vine	



A properly planned home grounds.

A typically ill-arranged home grounds. The front lawn cluttered by meaningless plantings. A good opportunity wasted.

sloping gradually away from it on all sides. On small lawns, the grades may be straight but as the extent of the lawn increases, they should assume the more graceful effect of a slightly rolling or waving surface. The use of terraces should usually be avoided as they are expensive to construct and to maintain and are conducive to a very formal effect.

A properly arranged home grounds. A simple, harmoniously designed farm house, situated well back from the road on a slight knoll, with a wide, unbroken front lawn framed along the back and boundaries with trees.

WALKS

Walks. On the small place, the designing and laying out of the walks and drive is a simple problem. They should be as direct and as convenient as conditions will permit; but on the larger place where the house is situated some distance back from the road, their design is often a more perplexing problem. Besides being convenient and direct, they should be graceful and pleasing in their lines, making them harmonious with the natural landscape effect of the grounds. Frequently, they may enter the property near the front corners and in simple sweeping curves approach the building, leaving a broad unbroken front lawn effect. Such an effect adds to the apparent extent of the grounds and produces an ideal setting for the buildings and plantings. It is desirable, therefore, in arranging the walks and drives to keep them well to the sides and boundaries whenever conditions permit.

LAWNS

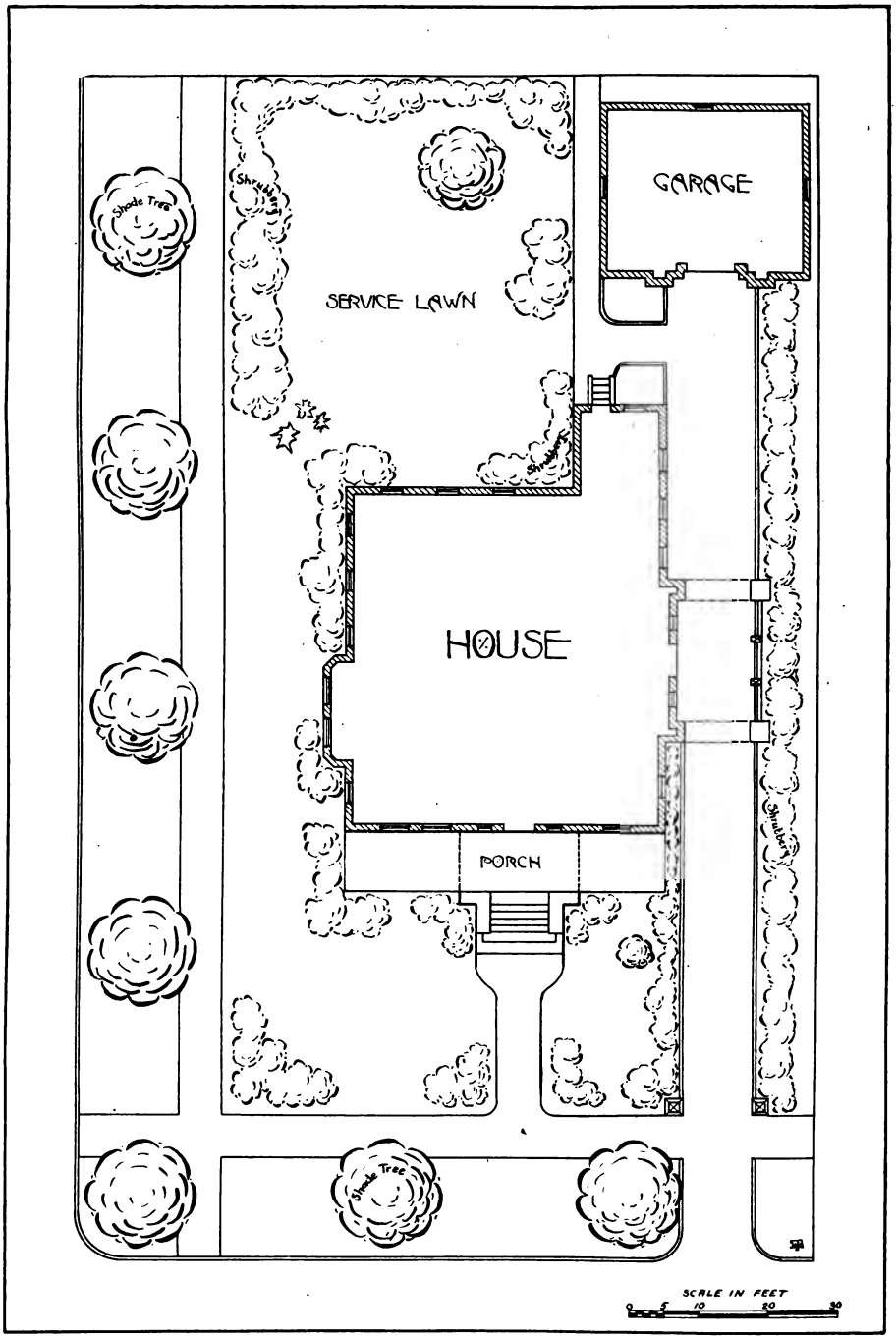
A good lawn is the most important feature of a well developed home grounds. It is often referred to as the canvass upon which the picture is painted. It should possess openness and extent and be framed with plantings of trees and shrubs about its borders. Never should it be cluttered with meaningless plantings of individual shrubs and trees as is most commonly done. Being such an essential and permanent source of beauty, its construction and maintenance deserves the most careful consideration.

Construction. The *soil* for a lawn should be of good texture containing plenty of plant food and enough humus to retain moisture. A strong clay loam or a sandy loam with a clay subsoil most nearly approaches these conditions. When a lawn is to be constructed upon light sandy soil, a top dressing of about two inches of clay with a heavy application of well rotted manure should be mixed with the first three or four inches of sand. Frequently, in building a house, the soil excavated from the cellar is spread about covering the good top soil with a poor sub-soil. This subsoil is of poor texture, contains little available plant food and is an extremely poor soil for lawns. Where it is necessary to use this sub-soil for filling, the top soil should be first removed to be later replaced on the surface.

In the *grading* of a lawn, first endeavor to obtain good surface drainage; see that there is a slight slope away from the buildings; that there are no low pockets where water may stand during the winter and spring, and that the area as a whole, is either naturally or artificially well drained.

Except in some very special cases, a level lawn should not be constructed. It lacks naturalness and decreases the apparent extent of the lawn. In grading, endeavor to preserve the slight natural slopes and curves of the land, remembering that nature never produces perfectly level surfaces. This part of the grading should be carefully studied and considered before starting the work. The way in which it is done will determine whether a graceful, pleasing, natural lawn is secured or a stiff, restrained, unsatisfactory one is the result.

After the general slopes have been established, the land may be harrowed if necessary and any small uneven places smoothed off.



A simple planting design of a small corner lot, showing the arrangement of the plantings, drive and garage with the service lawn screened by plantings from the road.

If the land has been allowed to remain over winter in a rough condition, the soil will have become well settled by spring and will be ready for the final work before seeding. Pick off all the stones which have come to the surface during the winter and then go over the land with a shallow harrowing or raking. If it can then be rolled, the small uneven spots will become very apparent and they can then be leveled off with a hand rake. By re-rolling and re-raking the land in this way, the surface can be made as smooth and even as desired.

Fertilizers. Well decomposed stable manure is the best general purpose fertilizer for lawns. It contains all the chemical elements essential for plant growth and adds humus to the soil, thus making it more retentive of moisture and also improving its texture. If this can be used, a heavy dressing should be applied. A ton to two thousand square feet would not be too heavy.

Chemical fertilizers may be used to advantage after the grass is well started but should never be applied at the seeding time as they may kill the young roots which come in contact with them during germination. It must be remembered also, in using commercial fertilizers that they never improve the physical condition of the soil. There is no humus added to the soil by their use and hence the soil texture is not improved. It is simply an addition of the essential food elements and should always be regarded as such. They are easily applied, contain no weed seeds and may be readily obtained.

Some of the most desirable forms of chemical fertilizers for lawns are fine ground bone, wood ashes, and the high grade forms of complete fertilizers. Ground bone is a very good form of fertilizer for lawns and although it contains principally phosphoric acid, it furnishes some nitrogen and lime. Unleached hardwood ashes are used as a source of potash and if applied each spring soon after growth begins, will generally prove very beneficial. Complete high grade fertilizers for lawns may be obtained from almost any fertilizer dealer and, while more expensive than the other forms, they are often quite efficient in maintaining the lawn.

Although the amount of fertilizer advisable to apply will depend much upon the condition of the soil as well as upon the form and strength of the fertilizer to be used, a dressing of about 2.5 pounds per hundred square feet would be a moderate application under average conditions.

Varieties of Grass for Lawns. The best variety of grass for lawns, under general conditions in Michigan, is Kentucky Bluegrass (*Poa pratensis*). While it is rather slow in starting, it produces a permanent lawn of fine texture and of a rich green color. The crown of the plant sets very close to the ground thus permitting close clipping and the plant, after becoming established, spreads rapidly by underground roots.

Although a permanent bluegrass lawn may be desired, it is often advisable to sow other varieties with the bluegrass seed. Of the rapid growing grasses that may be used for this purpose, the English rye grass (*Lolium perenne var. tenue*) is one of the best. It is an annual grass and a little coarse in leaf, but starts rapidly, produces a very early effect and covers the ground which might otherwise be occupied by weeds. Do not use oats, rye or timothy for this purpose.

A row of cottages before planting. Note how bare and bleak they appear.
See the picture on the following page.

Redtop (*Agrostis alba*) is a thick growing grass which produces a good lawn effect the first season. It is of a finer texture than rye grass but does not grow quite as rapidly on the start. It grows better under adverse soil and moisture conditions than most other grasses.

White clover (*Trifolium alba*) is frequently used on lawns as many people desire the appearance of the white clover blossoms in the summer. Others object to its tendency of giving the lawn a spotted effect.

On a very sandy soil the Rhode Island Bent grass (*Agrostis conina*) does well, while in very shady places the Woodland Meadow grass (*Poa nemoralis*) may be used. Where the lawn is on high, dry situations or slopes the Sheeps Fescue (*Festuca ovina*) will be found desirable, while on low wet places the Various-leaved fescue (*Festuca heterophylla*) will thrive.

For the average lawn, a good mixture is one-fourth Fancy Red Top, one-fourth English Rye grass and one-half Kentucky blue grass. If the area to be sown is small and the conditions of soil or exposure somewhat variable, it is advisable to buy a high grade prepared lawn mixture from a reliable seedsman. This mixture will generally contain seed adapted to various conditions and will prove more convenient and frequently better than the homemade mixture on such a small scale.

Frequently grass seed contains a great many weed seeds, often of a kind that may prove a serious nuisance and expense to get out of the lawn if they once become established. It is best to buy only the best seeds from the most reliable seedsmen. If a large quantity is to be procured, it would be advisable to send a sample to the Division of Botany of the State Experiment Station where it will be examined for purity free of charge.

The same cottages as in previous picture three years after planting. The simpler the architectural features the greater is the importance of plantings.

Sowing the Seed. In starting a lawn use plenty of seed, one and one fourth pounds to about 1000 square feet or fifty pounds to the acre (43560 sq. ft.) being none too much. Thick seeding chokes out weeds and assists in producing a quick effect.

Select a day when there is no wind to sow the seed. Early in the morning or about sun down is a very good time, and if just before a rain, so much the better.

By sowing the seed in the following way, an even stand is quite assured: taking one half of the amount of the seed to be sown and beginning at one end of the lawn, sow in parallel strips until the entire lawn is covered; then take the remaining one half of the seed and sow in strips in the other direction. If this is properly done, there should be no streaks or vacant spots in the future lawn.

After sowing the seed, unless directly followed by rain, the soil should be rolled. Raking or harrowing after sowing is apt to bury the seed unevenly.

Maintenance. After the grass has grown to a height of from four to six inches, it should be given the first clipping, being careful not to cut very close. A scythe is better for this cutting than a lawn mower as it will not pull out the young plants or cut as close as the mower. The future cuttings should be performed frequently enough to permit the clippings to remain on the lawn without being unsightly. These clippings if allowed to remain, will form a dense mulch around the base of the plants and protect the soil from drying out during the summer months. Cut frequently then but not too close.

Additional seed should be applied to all lawns at least every spring and often another sowing would prove beneficial the latter part of June or in September.

The most effective method of controlling weeds in lawns is by securing good drainage to the soil, keeping the lawn well supplied with plant food and the soil well filled with pure seed. Make the conditions for plant growth most favorable and there will be little chance for weeds to gain a foothold and develop.

PLANTING

Very ordinary looking buildings can be made attractive and homelike if the planting is properly done. It may be said that the less prominent the architectural features of a place, the greater the relative importance of the plantings. Hence it is very important that considerable attention be given to the planting of the ordinary farm house.

Functions of Planting. Before any successful attempt may be made in this line, one must first inquire as to the functions or purposes of the plantings to be made. In planting farm grounds, let it be realized that it is the endeavor to create a picture. That in this picture there are given as its elements, a farm house and other buildings,—roads, walks, lawns and other more or less separated elements. To unite these several disconnected parts into the production of one harmonious composition is the leading function of the plantings. To arrange the plantings about

Farm buildings may be made to harmonize with the home grounds by appropriate planting,

the house that the building may seem a natural outgrowth of the spot; to so arrange the plantings on the grounds that each and every planting may seem dependent upon the presence of every other planting or other element in the design, is the purpose of the planting. When it can be realized that these plantings are made not primarily for the sake of their own individual beauty but more because of their relationship to the design as a whole, to the picture about to be created, the first principle to guide one in planting has been mastered.

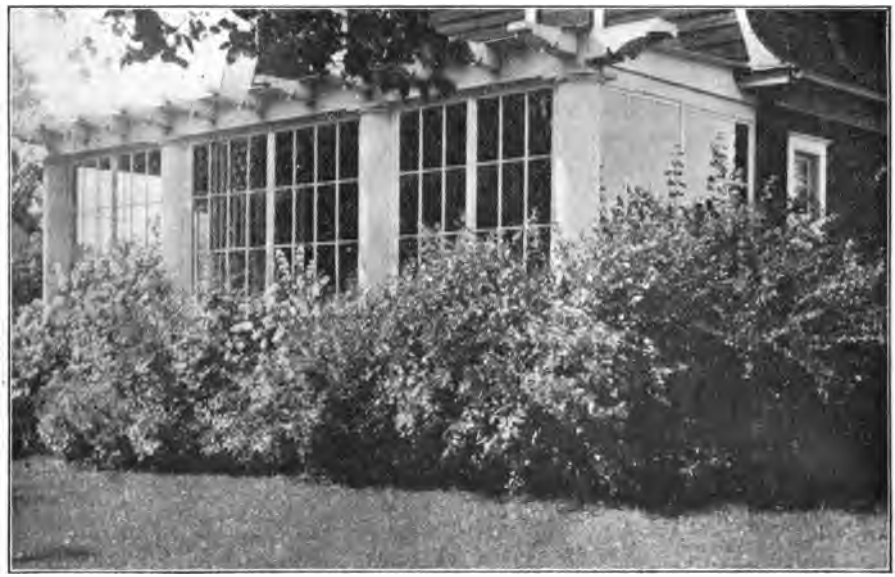
The planting of each and every grounds is a new problem, differing in certain respects from every other one. There are no definite rules then that can be given to guide one in the work; no ideal plan which may be drawn to serve all places; but there are a few general principles which may be suggested as a guide when solving many of these problems. Before any planting design is made, the grounds should be studied in reference to the general arrangement that is most serviceable. The style of architecture of the house, the position and character of any large trees already on the grounds, the slope and general character of the land, and any other natural condition should be studied to "see what kinds of beauty,

Plantings used to screen an unsightly view of neighboring barns.

what general character of pleasing appearance these conditions most readily suggest." Each and every home grounds is more or less suggestive of a certain type of beauty which may be brought forth and emphasized with the least difficulty.

After perceiving this type of beauty, one must then proceed to make the necessary details of arrangement, emphasize and enhance the character thus selected. One will first find certain elements which detract from the beauty of the grounds, which are defects in the picture, and should be screened by the use of plantings. Views within the grounds, such as of the henhouse, barnyard, a boundary fence or service drive and other unsightly spots; views beyond the grounds, as of a neighbor's shed, the back of a neighbor's barn and other views hardly pleasing and accept-

able to the sight,—all these should be entirely hidden from view by the use of plantings, or at least partially broken up to minimize their unsightliness.



A mass planting of hardy shrubs about the base of the porch tends to harmonize it with the lawn.

There are other elements in the design which should be just as carefully preserved and enhanced by plantings. The most pleasing lines and portions of the house, for example, may be emphasized and carefully preserved to the view. A wide sweep of open lawn, with a border and background of trees and shrubbery, is always a pleasing and acceptable sight. Vistas without the grounds, as of a distant woods, a winding river or a neighboring farm house and even the travel upon a public road, are often welcome sights which add to the pleasure and value of the grounds. It is especially important that these vistas be carefully preserved from the living rooms of the house, not always from the parlor but from those rooms where the family spend the major portion of their time. The plantings then serve a very important function by concealing the defects in these places and by enhancing those parts that are most pleasing. Thus, it may be seen how beautiful and attractive some of the ordinary looking farms of today may become by the proper use of plantings. How much more important this landscape use of plantings becomes on a common, ordinary looking farm where there are generally so many unpleasant sights which detract from the looks and very often from the value of the farm.

Plantings, when improperly used, may detract from the value and looks of the farm as well. The effect of a well-designed farm house is very frequently ruined by poor plantings. Trees planted too thickly

Mass plantings of trees and shrubs should be disposed about the boundaries of the lawn.

or too closely in front of the house; a lack of harmony in the design of the grounds to that of the house; plantings so placed as to hide the house from its most pleasing point of view—these are a few of the many causes which often spoil the effect of a well designed house by improper plantings. Let it be remembered then that plantings are to enhance rather than to detract from the expression already given by the design of the house and to harmonize it with its site.

There are three general rules of guidance tn arranging the plantings:

First,—avoid straight lines in planting. The general effect of all lines in planting should be graceful and naturalistic rather than stiff, formal or artificial. Plantings should seem to be a natural outgrowth of the spot rather than a crude piece of man's handiwork.

Second,—arrange the plants in groups and masses, selecting few kinds and many of each rather than many kinds and few of each.

Avoid planting meaningless, isolated specimens over the lawn. Naturalistic masses and groups of plants are necessary to give structural charactor to the design and each group or mass should consist of many specimens

Plantings properly arranged to enhance the architecture of the house

of but a few kinds, rather than one or two specimens of several kinds. The kinds of shrubs selected should be repeated in the various groups and masses not precisely in the same combinations but sufficiently so that the effect of one planting may be harmonious with the others. In this manner unity of effect may be obtained.

Plantings should be massed about the base of the buildings, using many specimens of but few kinds rather than one or two specimens of several kinds.
Bridal wreath spirea, (*Spiraea Vanhouttei.*)

Third,—plantings should be massed about the base of the buildings, grouped about the junctions or curves in the walks, massed about the boundaries and corners of the property but not usually along the front boundary of the property.

When arranged in this way, an open lawn bounded with naturalistic plantings of shrubbery and trees will be the general effect.

In arranging these plantings, they may perform other desirable functions also. They may be arranged to shelter the house from the winter storms and the summer heat, or to frame desirable vistas and thus accentuate their attractiveness. Masses of shrubs may be used to take the place of an undesirable fence or hedge. They may be planted to prevent people from wearing paths across the lawns and to unify the walks, buildings and other elements of the grounds into one harmonious design.

Shrubs planted in the corners of the entrance porch generally prove effective.

How to Plant. The planting should be done early enough in the spring so that the shrubs will be well established before the heat and drought of summer overtakes them. In preparing the beds, they should be dug to a depth of a foot or more and well manured. The distance of setting them depends largely upon the size of their growth. Japanese barberries should be planted two feet apart, spireas three and one-half feet and lilacs about four to five feet. In three years, when set at these distances, the branches should be so intermingled that their individuality in the beds is lost and a unified mass effect produced. In transplanting, keep the roots moist and prevent them from being exposed to the sun and wind any longer than necessary. Set the plants slightly deeper than they stood in the nursery and pack the best fine soil firmly about the outspread roots. If the soil is dry, water after planting. It will help to compact the soil about the roots and keep them moist. The tops may then be pruned back to balance the loss of roots, leaving a few large buds on each of the strongest shoots.

WHAT VARIETIES TO SELECT

Shrubs

The choice of varieties is perplexing because there are so many handsome shrubs all of which seem most desirable to the home garden maker. A few of the good old standbys that are handled by every nurseryman and sold by the millions, that are sure to give one his money's worth and are safest for the beginner to tie to are given in the following list.

Spireas. First of all there is the bridal wreath spirea, *Spiraea Vanhouttei,* the most popular spring flowering shrub. Its remarkable freedom

of bloom and beautiful foliage produced on branches drooping gracefully to the ground makes it exceedingly attractive. This spirea, which is only one of a large group of Spireas, is very hardy and grows well upon any moderately rich and well drained soil. It attains a height of about five feet and is particularly adapted for mass plantings about buildings and porches, along walks and drives or around the boundaries of the lawn. Of the other spireas, there is the double-flowered spirea that one sees everywhere named *Spiraea prunifolia* because its leaves resemble those of the Prunus or plum. *Spiraea arguta,* altho not as well known, is a most desirable early spring flowering shrub with small delicate foliage and white flowers. It is particularly adapted for planting in the foreground of other higher and coarser growing shrubs. For summer floweirng, the species is represented by *Spiraea Bumalda* var. Anthony Waterer that blooms quite continuously from the middle of June until frosts overtakes it in the fall. Its flowers are produced in corymbs or flat flower heads of a rosy crimson color, sometimes approaching a magenta. Where a low shrub is wanted for summer effect, this is one of the best.

Shrubs massed about the base of trees relieve the bareness of the trunks and tend to unify them with the surrounding lawn.

Thunberg's Barberry. It would be hard to name a shrub as cosmopolitan in its characteristics, combining as many desirable qualities as the Japanese barberry, *Berberis Thunbergii.* It is one of the few shrubs that is attractive at all seasons of the year. In the spring and summer its graceful branches are clothed with small yellowish green leaves that change to a bright scarlet in the fall. Later they are shed to expose the scarlet berries that enliven the landscape all winter. While a sandy loam soil seems to be ideal for the barberry, it will be found thriving equally well on practically all types of soils that are well drained and seems hardly more particular over exposure. The San Jose scale, plant lice and other pests seem to painstakingly avoid it. The graceful form it assumes and its low habit of growth make it suitable for filling in small spaces such as between walks or buildings or for planting in front of Spireas and other higher growing shrubs. There is nothing better to use where a low ornamental hedge is desired than this barberry that shifts for itself after it is once established.

Sorbaria sorbifolia generally known as the Ash-leaved Spirea, is desirable for planting steep banks.

Lilacs. The most common and still most indispensable of the shrubs is the lilac. There are so many desirable improved varieties of this old time flower that even if one were given a few bushes of the old-fashioned type by some kind meaning neighbor, one could not afford to plant them, the new improved ones are so much superior. They produce larger and better flowers over a longer season. Therefore, go to a nurseryman and get something that will be different and better than this old-fashioned type. There become acquainted with Marie Legraye, a beautiful white; Mad. Lemoine, the best double white; Dr. Regel, a handsome rosy pink; Chas. X, an attractive rosy purple; Toussant L'Ouverture, a very dark carmine colored in bud, turning to a violet-red when in full bloom and an endless list of other improved sorts of the old fashioned lilac, *Syringa vulgaris.* Then, there are other species of lilacs that include at least one other type that should be used. For landscape effects it is to be preferred to any of the former group because it seems to be more graceful in its growth with smaller leaves and large, open, gracefully drooping panicles of reddish purple flowers. This is the Rouen Lilac listed in the catalogues as *Syringa rothomagensis.* The purple Persian lilac is very similar to it but more dwarf in its growth. For screens and backgrounds of shrubbery masses, used in separate colors rather than mixed, lilacs produce a most attractive effect in late spring.

Lilacs produce excellent effects when planted in masses on banks with a proper background of trees.

Mock Orange. The mock orange or syringa bush is another large, high growing shrub that is prized especially for its fragrant white blossoms that are so abundantly produced in June. The old-fashioned variety, *Philadelphus coronarius,* is the most fragrant but the newer varieties such as *Philadelphus coronarius grandiflorus,* produce flowers over twice the size and of a purer white. The yellow leaved sorts are not as vigorous or free flowering and should be used very sparingly. The green leaved sorts are very hardy and easily grown on any soil of moderate fertility.

Snowball. While the old-fashioned Snowball that was formerly planted in every yard is now considered of little value because its foliage is annually ruined by plant lice, its place has been taken by another bush called the Japanese Snowball, *Viburnum tomentosum plenum.* The flowers of this shrub are quite similar to the common Snowball but appear more attractive and of a purer white against the heavy dark green foliage of the bush. It delights in a rich moist soil and may be planted along the north side of buildings, a northeastern exposure being ideal. Although not entirely hardy in the northern districts, its superiority over the common snowball, both in foliage and flower, makes it a most desirable shrub. There are many other Viburnums also that are used by landscape gar-

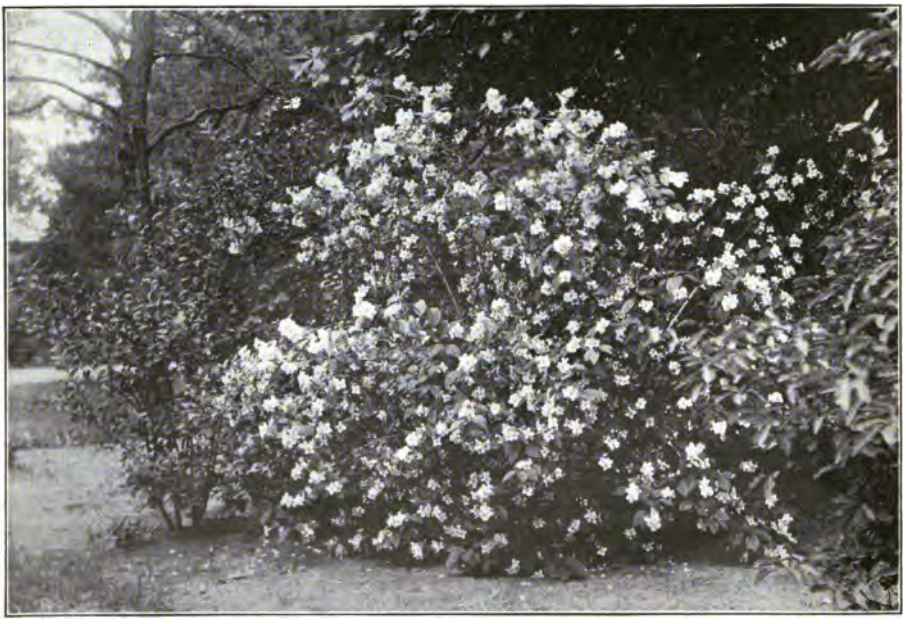
The mock orange (*Philadelphia coronarius*) is one of the most cosmopolitan shrubs for home planting, being hardy, free from insects and diseases and easily grown.

deners that are more particularly adapted to the planting of parks and for producing other very naturalistic effects. Most of them are not as showy in flower but produce excellent summer effects by their fruits.

Bush Honeysuckle. The bush honeysuckles are very acceptable in plantings for the summer effect of their berries. While many produce beautiful spring flowering effects in white or pink, they are prized more for the red coral-like berries that color these plantings in midsummer after most of the shrubs are through blooming. *Lonicera Morrowii* is one of the best varieties for this purpose while *Lonicera tartarica* var. *grandiflora rosea* is one of the most effective in flower.

Weigela. A class of popular shrubs often confused with the honeysuckles, possibly because of their trumpet shaped flowers, is the *Weigela* or *Diervilla.* Although the latter is now considered the standard botanical name, in many of the catalogs, it is still listed as Weigela. Of the many varieties in pink, white or red that are now listed of this group, the old-fashioned pink flowering *Diervilla florida* continues to lead in popularity. There is another variety, *Diervilla hybrida Eva Rathke,* that is also used considerably by those familiar with its qualities. This variety is more of

Lemoine's Deutzia (*Deutzia Lemoinei*) is the hardiest of all the deutzias and excellent for planting in the foreground of shrubbery masses



Flowering shrubs, such as the large flowering mock orange, (*Philadelphia coronarius grandiflorus*) appear ideal with a background of trees.

a continual bloomer than the former, with deep carmine-red flowers and somewhat darker foliage. It seems to blossom almost as profusely in the shade as in full sunlight. It is found very acceptable, therefore, for planting along the north side of buildings or in other partly shaded situations.

Of the many other shrubs worthy of consideration, there are the golden bells or *Forsythias*, whose yellow blossoms are produced even before its leaves in the spring, so early in fact that the flowers are often caught by late freezes; also the yellow flowering currant, *Ribes aureum*, with its sweet fragrant blossoms, and the Japanese Rose, *Rosa rugosa*, with its luxuriant foliage and ever-blooming flowers. There is no trouble about having enough kinds to select from but the difficulty is in limiting the list to the ones that are best. For the home garden maker, it will be wise to stick largely to the old standard sorts.

SHRUBS FOR SPECIAL PURPOSES

Shrubs for Hedges

*Berberis Thunbergii
Thunberg's Barberry
Rosa rugosa
Japanese Rose
Spiræa Vanhouttei
Van Houtt's Spirea or Bridal Wreath
Deutzia Lemoinei
Lemoin's deutzia
Ligustrum amurense
Amur Privet
Lonicera tartarica
Tartarian Honeysuckle
Thuja occidentalis
Arbor-Vitae or White Cedar

Shrubs for Border Planting

a. Low Growing.

Deutzia gracilis
Slender Deutzia
Berberis Thunbergii
Thunberg's Barberry
Symphoricarpos orbiculatus
Coral Berry or *Indian Currant*
Kerria Japonica
Globe Flower or *Corchorus*
Spiræa Bumalda var. Anthony Waterer
Anthony Waterer's Spirea
Spiræa Thunbergii
Thunberg's Spirea
Symphoricarpos albus
Snow Berry

b. Medium Growing.

Ribes ordoratum
Yellow Flowering Currant
Spiræa Vanhouttei
Van Houtt's Spirea or *Bridal Wreath*
Spiræa prunifolia
Plum-leaved Spirea
Rosa rugosa
Japanese Rose
Rhodotypos kerrioides
White Kerria
Deutzia Lemoinei
Lemoin's Deutzia

c. Tall Growing.

Diervilla florida
Rose-colored Weigela
Lonicera Morrowii
Bush Honeysuckle
Forsythia intermedia
Golden Bell
Viburnum (*In Variety*)
Philadelphus coronarius
Mock Orange or Syringa
Lonicera tartarica
Tartarian Honeysuckle
Syringa (*In Variety*)
Lilac
Euonymus americana
Strawberry Bush

Shrubs for Specimen Use

Corinus americanus
Smoke Tree
Euonymus alata
Winged Burning Bush

*The plant names in this bulletin are those adopted by the American Joint Committee on Horticultural Nomenclature.

Chionanthus virginica
White Fringe

Exochorda racemosa
Pearl Bush

Prunus cerasifera Pissardii
Purple-leaved Plum

Prunus communis
Flowering Almond

Caragana arborescens
Siberian Pea Tree

Tamarix (*In Variety*)
Tamarick

Cercis canadensis
Red-bud

Chaenomeles japonica
Japan Quince

Shrubs for Exposed Lake Front

Rosa setigera
Michigan Prairie Rose

Viburnum opulus
High-Bush Cranberry

Tamarix (*In Variety*)

Rhus (*In Variety*)
Sumac

Rhamnus cathartica
Buckthorn

Elæagnus argentea
Silver Thorn

Rosa rugosa
Japanese Rose

Syringa vulgaris
Lilac

Philadelphus coronarius
Mock Orange

Shrubs for Shady Situations

Symphoricarpos albus
Snow Berry

Symphoricarpos orbiculatus
Coral Berry

Calycanthus floridus
Sweet-scented Shrub

Cornus (*In Variety*)
Dogwood

Diervilla hybrida var. Eva Rathke
Weigela Eva Rathke

Viburnum (*In Variety*)

Ligustrum amurense
Amur Privet

Shrubs for Sandy Soils

Rhus canadensis
Fragrant Sumac

Caragana arborescens
Siberian Pea Tree

Forsythia intermedia
Golden Bell

Tamarix (*In Variety*)
Tamarisk

Lonicera tartarica
Tartarian Bush Honeysuckle

Rosa rugosa
Japanese Rose

Rosa setigera
Michigan Prairie Rose

Berberis Thunbergii
Thunberg's Barberry

Rhus glabra
Sumac

Cotinus coggygria
Purple Fringe

Spiræa Vanhouttei
Van Houtt's Spirea

Shrubs for Steep Banks

Rosa setigera
Michigan Prairie Rose
Rhus (*In Variety*)
Sumac
Sorbaria sorbifolia
Ash-leaved Spirea
Spiræa tomentosa
Hardhack

Roses

Hybrid Perpetuals

—For cut flowers.

(Half hardy, requiring some protection over winter)

Frau Karl Druschki (*white*)
Mrs. John Laing (*pink*)
General Jacqueminot (*brilliant crimson*)
Ulrich Brunner (*cherry red*)
Paul Neyron (*deep rose*)
Mrs. R. G. Sharman Crawford (*deep rose-pink*)
John Hopper (*bright rose*)
Marshall P. Wilder (*cherry carmine*)
Prince Camille de Rohan (*deep crimson*)

Hardy Climbing Roses

Baltimore Belle (*white tinted pink*)
Crimson Rambler (*bright crimson*)
Dorothy Perkins (*pink*)
Lady Gay (*rose pink*)
White Dorothy Perkins (*white*)

Roses for Landscape Effect

Rosa rugosa (*Japan rose*)
Rosa setigera (*Michigan Prairie rose*)
Rosa rubiginosa ((*Sweet briar*)
Rosa rubrifolia (*Red-leaved rose*)

Hardy Bush Roses

Austrian Yellow
Persian Yellow
Common Moss
Blanche Moreau (*white*)
Princess Adelaide (*pale rose*)
Gracilis (*deep pink*)

TREES

*"Among all the materials at our disposal for the embellishment of country residences, none are at once so highly ornamental, so indispensable or so easily managed as trees or wood."**

Trees are especially valuable as screens, windbreaks, backgrounds for buildings, for shade and for their own individual beauty in a design. By a natural arrangement of trees in the improvement of the country home grounds, buildings which might otherwise seem bare and bald may be made interesting and often picturesque. They should be disposed around our houses in groups, masses, thickets and as single trees in such a manner as to rival the most beautiful scenery of nature as well as to provide all the comforts and conveniences of a rural home.

In selecting trees for home planting, the following requirements should be considered: namely—form, hardiness, adaptability, rapidity of growth, shade production, freedom from insects and diseases, neatness and general beauty.

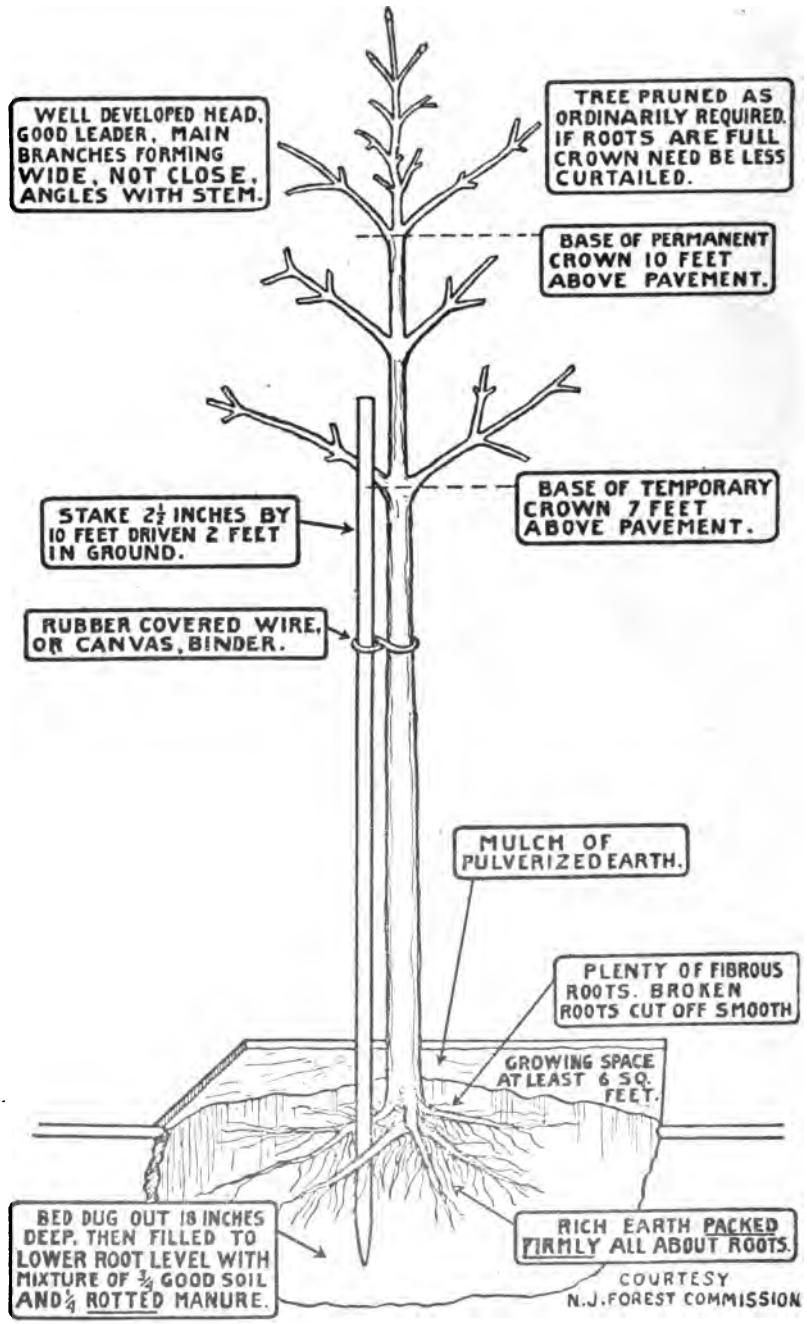
In purchasing trees one should obtain healthy, well shaped trees. It is generally a waste of time and money to set poor, deformed trees. Wild trees may be used but they are less likely to withstand the shock of transplanting than those that have been previously transplanted in the nursery. In purchasing shade trees, it is possible to set out trees as large as a foot in diameter but the cost is so great that few can afford to transplant trees of such size. As a rule, smaller trees transplant more successfully. Trees for street planting should be about two inches in diameter and ten to twelve feet in height.

In transplanting trees, as many roots as possible should be preserved as trees with large root systems do much better than those whose roots have been severely pruned.

As the tree is purchased from the nursery, the top or crown is usually already formed. This general shape of the top should be preserved in pruning after transplanting. If the root system has been severely pruned, it will be necessary, however, to cut back the branches of the top to maintain a balance between the roots and foliage, altho it is better to maintain this balance by saving the roots than by sacrificing branches.

*Section III, Chapter on "Wood," Treatise on the Theory and Practice of Landscape Gardening. By A. J. Downing. This book was the first landscape gardening book published in America and is considered one of the best at the present time. It started a great popular movement toward the development of beautiful home grounds and its author by his many writings and landscape gardening work exerted more influence in the development of American horticulture than probably any other single figure.

Shade Trees.



How to Plant a Tree

During transplanting, the roots of the trees should never be allowed to become dry. If a choice is allowed, transplant a tree on a cloudy day as a bright sun or a dry wind exhausts the stored up moisture. As soon as the trees arrive from the nursery they should be "heeled-in" in moist soil until planting.

Large trees may be transplanted successfully during the dormant period by digging a trench around the roots, some three or four feet from the trunk to retain a large ball of soil with the roots.

In planting the tree, the hole should be dug slightly larger than is necessary to accommodate the roots without bending or twisting them. If the site, as is often the case, is on "made" ground, remove at least a cubic yard of the soil or rubbish and provide as much good loam. In planting the tree, spread a layer of fine mellow soil mixed well with about one-third its bulk of well decomposed stable manure, if available, in the bottom of the hole. Never use fresh manure. The tree should then be planted by packing the fine soil firmly about the roots, setting the tree about two inches deeper in the soil than it stood in the nursery. If the soil is dry at planting time, watering directly after planting will be beneficial as it will help much in packing the soil about the roots and supplying moisture.

After the ball of earth has been frozen, the tree may be transferred to its proper location.

DECIDUOUS TREES

Oaks

Of all the trees that may be used on the home grounds, the oaks are undoubtedly the best shade trees, for with few exceptions, they are beautiful, long lived and little subject to insects and diseases. They are commonly considered to be slow growing trees but when well cared for the growth of many of them is quite rapid. The *white oak* is probably the best known and one of the longest lived trees. While young, it has an elegant appearance and when old it generally becomes majestic and picturesque. It is especially adapted for lawn planting. The *red oak* seems to be satisfied with a comparatively poor soil, develops a straight sturdy trunk, a symmetrical top and its foliage turns a brilliant color in the fall. It is the most rapid growing of the oaks and well adapted for both lawn and street planting. The *scarlet oak* is much like the red oak, altho it is smaller in size and does well even on poorer soil. Its foliage becomes brilliantly colored in the fall and hence the name. The *pin oak* grows taller and more slender than most other oaks with an unusually straight trunk. The leaves are small and quite persistent through the winter. This tree thrives well upon moist ground but grows well even where the soil is quite dry. It is especially adapted for street planting and also makes a very desirable lawn tree, the foliage being less brilliantly colored than the red oak altho beautiful during all parts of the growing season.

Elms

The American elm is probably the stateliest tree grown in this country. Usually the tree assumes a high, upright spreading form, producing a shade that is not too dense for either lawn or street purposes. As a street

tree, it combines more desirable qualities than any other kind altho it grows too large for narrow streets. It prefers a reasonably fertile soil and plenty of moisture, and under these conditions, is a comparatively rapid grower.

MAPLE

No trees have been more widely used for planting the home grounds than the maples, as they are very satisfactory as shade, ornamental or street trees. The *white, silver* or *soft maple* is largely planted because of its rapid growth altho it is a short lived tree, very susceptible to borers and very subject to splitting and breaking. The *Norway maple* is the best tree for streets of moderate width and is a very desirable lawn tree.

The sugar maple (*Acer saccharum*) is one of the best shade trees for the home grounds.

It is adaptable to almost any soil, hardy and little subject to serious insects or diseases. It is one of the first maples to come into foliage in the spring and the last to drop its leaves in the fall although the foliage does not take on such brilliant color effects as the sugar and red maples. The red leaved variety of the Norway maple is an especially attractive tree when properly located on the home grounds. The common *red maple* thrives best on a moist soil and is sometimes used as a street tree although proving more suitable for lawn planting. In the fall, the coloring of the foliage is brilliant and in the spring its blossoms make a very attractive early spring effect. The *sugar maple* is the most widely known and one of the best of all the maples. It is a larger tree than the Norway maple although in many other respects so much like it that the two are often hard to distinguish. It thrives in cool situations and does not do as well under adverse soil conditions as the Norway maple. Its foliage becomes brilliantly colored in the fall, varying from yellow to scarlet. The *ash leaved maple* or *box elder* is frequently planted as a lawn tree and it accommodates itself well to adverse conditions. Like the silver maple, it is a short lived tree and not recommended for general planting.

Beech. The beech makes one of the most attractive and beautiful lawn trees. It requires a rich well-drained soil and grows rather slowly. The tree branches too low to produce a desirable street tree and the crown develops such dense foliage as to cast a heavy shade. During the winter, the light gray tint of the bark produces an excellent landscape effect while in the summer the silvery effect of the foliage is very beautiful. The *American beech* is largely used in this country although there are many ornamental forms of the European species such as the purple-leaved, cut-leaved and drooping beeches that are also popular. In planting upon the lawn, it is well to place these trees well away from the buildings or any spot where sunlight is desired either in winter or summer.

The Norway spruce (*Picea excelsa*) is one of the best evergreens for lawn planting

There are many other desirable kinds of deciduous trees that are all valuable under special conditions. Where quick temporary effects are desired the poplars are favorite trees while the attractive and graceful white birches, the golden willows, the stately sycamores or that much over planted catalpa, may sometimes find an appropriate setting in the home planting.

Evergreens

There are few home grounds where a few ever- greens cannot be advantageously used for producing permanent screens, wind breaks, shelterbelts or hedges. They are very valuable if planted sparingly about the lawn as they contrast well with the deciduous trees and enliven the landscape effects during the

winter season. When used too much about the grounds, they are apt to produce a somber gloomy effect. They should never be used near the south or east side of buildings where they might shade them during the winter months. When placed well in the background of shrubs or deciduous trees, they give excellent results.

More spruces have been planted about home grounds than any other kind of evergreen. They are the fastest growing of all evergreens, are very hardy and do well on almost all kinds of soil. For quick effects under average conditions, the spruces are generally the best. They are much used for windbreaks and hedges as well as for planting about the lawn.

The *Norway spruce* is one of the best and most planted of all the spruces. It adapts itself well to any soil and almost any condition. The tree is clean, trim and bright both in summer and winter. As windbreaks upon the farm, it is one of the very best to plant. The trees grow high and thick and will live almost indefinitely. To maintain a thick growth at the base of the tree, it is often necessary to top them. Care must then be taken to prevent the formation and growth of two leaders. The beauty of all evergreens depends upon the preservation of a good healthy growth about the base of the tree whether they are used as hedges, windbreaks to lawn specimens.

The *Colorado blue spruce* is one of the most beautiful of the evergreens. The branches are produced in whorls around the trunk and the foliage is dense and of a bluish color. It thrives in almost any soil and locality, is a vigorous grower and does well in cold exposed situations. These trees are propagated in the nurseries by grafting cions from the finest bluest tree on vigorous seedlings, thus producing trees that are uniformly of a comparatively intense blue color. When seed is planted of this variety, some of the seedlings come true blue while others revert to the green.

White pine is the most valuable variety of pines both for planting about the home and for producing windbreaks or shelter belts. When planted for windbreaks, white pine should be placed further apart than other evergreens as the limbs grow out close to the ground and spread widely. The foliage is softer and finer than most other evergreens. The young trees look trim and neat all the year around while the old specimens are very picturesque.

The *Austrian pine* is a variety that is especially recommended for planting in the middle west. The growth is very dense and the trees grow to a large size. As planted singly on the lawns, the trees produce a beautiful effect while when planted in groups, the dark foliage shows in excellent contrast with spruce or other evergreens.

The *Hemlock* is also a very popular evergreen for lawn planting and for producing hedges. The foliage is very fine, producing a delicate effect and the trees are graceful and usually long lived. They stand shearing well when planted in hedges and will grow in the shade. For planting in groups with other evergreens they are also most excellent. The trees do best with a northern or eastern exposure and when protected

from the drying winds. They prefer a moist soil. Sometimes the trees have a tendency to grow quite straggly and should be frequently topped to maintain a dense growth of the lower branches.

Arbor Vitae. These evergreens, commonly known as the white cedars, are usually small growing, formal shaped trees. They are quite different in texture from other evergreens and very beautiful when properly used. The varieties vary much as to their form, size and color of foliage but the pyramidal varieties are most largely used. These may be especially valuable in grouping with other evergreens or in planting as screens or hedges. They stand pruning very well and can be trained to almost any shape. They prefer a moist deep soil but will thrive on any moderately fertile, well drained soil. They may be found growing wild in many of the low moist places in the central western states and if transplanted while still small, will produce excellent specimens.

TREES FOR SPECIAL PURPOSES

a. Street Planting.

Acer saccharum
Sugar Maple

Acer platanoides
Norway Maple

Quercus rubra
Red Oak

Ulmus americana
American Elm

Quercus palustris
Pin Oak

Tilia vulgaris
Linden

b. Trees for Specimen Planting.

Acer platanoides Schwedleri
Purple Norway Maple

Magnolia soulangeana
Soulange's Magnolia

Cratægus coccinea
Scarlet Thorn

Cladrastis lutea
Yellow-Wood

Cornus florida
Flowering Dogwood

Quercus (*In Variety*)
Oak

Populus nigra italica
Lombardy Poplar

Sorbus americana
Mountain Ash

Pyrus (*In Variety*)
Flowering Crabapple

Cercis canadensis
Redbud or Judas Tree

Betula (*In Variety*)
Birch

Prunus cerasifera Pissardii
Purple-leaved Plum

Morus alba pendula
Tea's Weeping Mulberry

Thuja (*In Variety*)
White Cedar

Picea (*In Variety*)
Spruce

Fagus (*In Variety*)
Beech

c. Trees for Exposed Lake Front.

Caragana arborescens
Siberian Pea Tree

Betula pendula
European White Birch

Betula populifolia
American White Birch

Cratægus Oxyacantha
May Thorn

Elæagnus angustifolia
Russian Olive

Pyrus baccata
Flowering Crab

Robinia pseudacacia
Black Locust

Pinus nigra austriaca
Austrian Pine

Pinus sylvestris
Scotch Pine

Picea canadensis
White Spruce

Cratægus Oxyacantha coccinea
Scarlet Thorn

Populus Eugenei
Carolina Poplar

Juniperus communis hibernica
Irish Juniper

Pinus montana *Mughus*
Dwarf Pine

Sorbus americana
Mountain Ash

Quercus macrocarpa
Mossy Cup Oak

Picea excelsa
Norway Spruce

Trees for Windbreaks

Pinus strobus
White Pine

Picea excelsa
Norway Spruce

Pinus resinosa
Red or Norway Pine

Pinus sylvestris
Scotch Pine

Thuja occidentalis
White Cedar or Arbor-Vitae

VINES

Vines are as essential in harmonizing the house with its surroundings as the trees and shrubs we plant about it. When used in this manner, their principal function is to tone down the stiff, bold angles and bare surfaces of the house, producing a softness in the landscape that could be obtained in no other way. They are also valuable in covering steep banks, walls and fences; in the production of quick screens and in the covering of stumps or conspicuous trunks of trees.

The principal determinants to success in their use consists in selecting the proper places to plant the vines and the most appropriate vine for each place. As one frequently sees them used, they are covering spaces which would be far more beautiful if left open or leaving spaces exposed

Vines should enhance rather than conceal the architecture. The Boston Ivy (*Parthenocissus tricuspidata Veitchii*) is excellent for covering brick or stone work.

which should be covered, thus ruining the architectural features of the building. If correctly used, they should embellish rather than conceal the architecture. Porch columns, cornice lines, corners and angles of buildings should be left open here and there to reveal the form and design of the structure. By planting the less sightly portions and leaving the more beautiful elements of the design exposed, even the most ordinary looking houses may often become very attractive. The style of architec-

ture of the building will largely determine the character of the vine that should be selected to embellish it. The Dutchman's Pipe and Boston Ivy are more suitable for the development of the formal style of treatment than the freer growing vines such as the Clematis or Honeysuckle. Some of the flowering vines that do not produce a dense shade are particularly valuable for draping porch columns and training about windows or along the cornice of a porch. The flowering Clematis, Wistaria and Honeysuckle may often be used in this way, while on porches with a western exposure where a dense shade is desirable, the Virginia Creeper, Bittersweet or some of the vines producing a heavier foliage may be most desirable.

The planting of vines too close to the foundation of buildings is a frequent cause of failure in their development, as the cold wall and dry soil in such a location is not conducive to the growth of vines. It is better to plant them a foot to eighteen inches from the wall where the soil is moist and the roots may develop very vigorously. Exposure is also an important consideration in planting vines. Many of the vines such as Wistaria, Climbing roses and Clematis prefer a southeastern exposure, while the Virginia Creeper, Dutchman's Pipe and the Honeysuckles will thrive in shady places or with a northern exposure. Most vines, however, will flower more freely if given plenty of sunlight. The soil is a very important factor in growing vines successfully. They require a well drained soil, fairly moist and fertile, altho they often survive and struggle along on a poor soil. If the soil is poor, it should be replaced with rich loam, if this can be obtained. Otherwise, the soil should be enriched with well decomposed stable manure or commercial fertilizer, being careful that this material is not allowed to come in direct contact with the roots. After planting, the soil should be kept well cultivated, never allowing it to become hard and dry.

The dust and gases of the cities ruin many of the vines altho certain kinds such as Boston Ivy and Virginia Creeper seem to thrive even under these conditions. These vines, however, should not be allowed to climb upon wooden structures as they are apt to make the house damp and to cause the wood to decay. Vines should be found very acceptable in planting steep banks and thus preventing washing, while for covering bare and unsightly places under trees or over dead stumps, they may be made to produce excellent landscape effects. For covering stone walls, fences, arbors and in countless other ways, vines will be found most effective on the home grounds.

VINES FOR SPECIAL PURPOSES

a. Flowering Vines

Clematis Jackmanii
Purple Clematis

Clematis paniculata
White Flowering Clematis

Campsis radicans
Trumpet Vine

Roses, Wichuraiana Hybrids
Crimson Rambler
Dorothy Perkins.

Wisteria sinensis
Chinese Wisteria

Lonicera japonica Halliana
Hall's Japan Honeysuckle

b. Vines for covering brick, stone and masonry

Parthenocissus tricuspidata Veitchii
Boston Ivy

Parthenocissus quinquefolia Engelmannii
Engelmann's Ampelopsis

Euonymus radicans
Climbing Euonymus

c. Vigorous climbing vines with heavy foliage

Celastrus scandens
Bittersweet

Campsis radicans
Trumpet Vine

Parthenocissus quinquefolia
Virginia Creeper

Lonicera (In Variety)
Honeysuckle

Wisteria sinensis
Chinese Wisteria

Aristolochia macrophylla
Dutchman's Pipe

Clematis paniculata
White-flowering Clematis

Speedwell (*Veronica longifolia* var. *subsessilis*), a beautiful perennial that should be more largely planted, producing beautiful spikes of intense lustrous blue color.

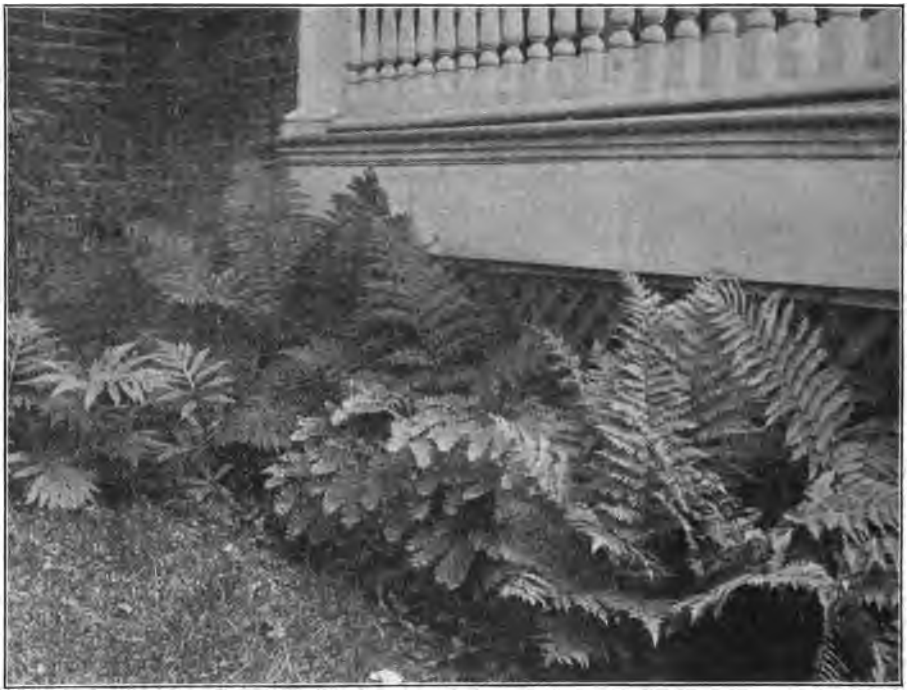
HARDY PERENNIALS

Hardy perennials will always remain a most popular class of flowering plants. There is not a time during the whole flower season in which some hardy perennial is not in bloom, while during the months of July and August, when almost all the woody shrubs have ceased blooming, these plants are mainly depended upon for flower display. They are not fastidious about the soil they grow in altho many have a preference. Under trees or shrubberies, on sloping dry banks, along the borders of ponds or brooks, suitable perennials may be selected that thrive under such conditions. Their ability to thrive with little care makes them a very cheap and desirable class of plants for the home grounds.

Perennials are especially suited for border planting and when placed in front of shrubbery masses they are most effective. They are also very effectively used when planted along garden walks, walls, fences, against buildings and innumerable other places about the home grounds. In planting perennials they should be grouped or naturalistically massed as the effect produced by a colony is more attractive than the effect of a number of varieties scattered aimlessly with few plants of each together. Many of the perennials can be grown from seed. It is best to sow the seed in hotbeds or cold frames very early in the spring and the seedlings may be afterwards transplanted out of doors. Usually, however, they are propagated more easily by division.

Of the old time favorites, there are the foxgloves, larkspurs, hollyhocks, sweet-williams and phlox, all so characteristic of the early colonial gardens, that are just as desirable today. There are the columbines, blanket-flowers, coreopsis, peonies and poppies, favorites for their beautiful flowering

The Iris is one of the most satisfactory perennials for border planting and cut flowers.



Hardy native ferns as a foundation planting along the north side of a porch.

Hollyhocks should be planted against buildings, walls or in front of higher growing plants. They are difficult to transplant but easily grown from seed even on a poor clay soil.

effects. For planting about ponds or upon deep moist soil, there are the iris, forget-me-not, lily-of-the-valley, bee balm, trillium, cardinal flower and the ornamental grasses, while for late summer and fall effects there are the hardy chrysanthemums, golden glow, asters and anemone or wind flower. So from early spring until fall when the ground is finally covered with a blanket of snow, the hardy perennials are lending their color tints to brighten their surroundings.

PERENNIALS FOR SPECIAL PURPOSES

a. Standard Types for General Planting.

Iris germanica
German Iris
Phlox paniculata
Garden Phlox
Paeonia
Peony
Delphinium
Larkspur
Aster
Aster
Rudbeckia laciniata
Golden Glow
Coreopsis lanceolata
Lance-leaved Tickseed
Dianthus barbatus
Sweet William
Aquilegia
Columbine
Chrysanthemum
Chrysanthemum
Althæa rosea
Hollyhock

Purple Loosestrife (*Lythrum Salicaria roseum*), a late summer flowering perennial that delights in a moist soil, planted amid shrubbery,

b. Little Known Perennials That Should Be More Largely Used.

Achillea Ptarmica var. Boule de Neige
Ball of Snow
Monarda didyma
Bee Balm
Hosta plantaginea
Day Lily
Gypsophila paniculata
Baby's Breath
Papaver orientale
Oriental Poppy
Phlox subulata
Moss Pink
Hibiscus Moscheutos
Marsh Mallow
Gaillardia aristata
Blanket Flower
Narcissus poeticus
Narcissus
Anemone japonica
Japanese Windflower
Iberis sempervirens
Evergreen Candytuft
Aquilegia formosa hybrids
Columbines
Chrysanthemum coccineum
Feverfew
Lobelia cardinalus
Cardinal Flower
Eulalias (In Variety)
Plume Grasses

CHOICE VARIETIES OF PEONIES

White

Early
Festiva Maxima
Madame de Verneville
Mid-season
Baroness Schroeder
Late
Marie Lemoine
Couronne d'Or

Pink

Early
Delicatissima
Mid-season
Therese
Madame Emile Lemoine
Albert Crousse
Late
Dorchester

Deep Pink

Early
Alexandriana
Mid-season
Modeste Guerin
Late
Livingston
Monsieur Boncharlat Aine

Red

Early
Augustin d'Hour
Mid-season
Felix Crousse
Late
Henry Demay

CHOICE VARIETIES OF PHLOX

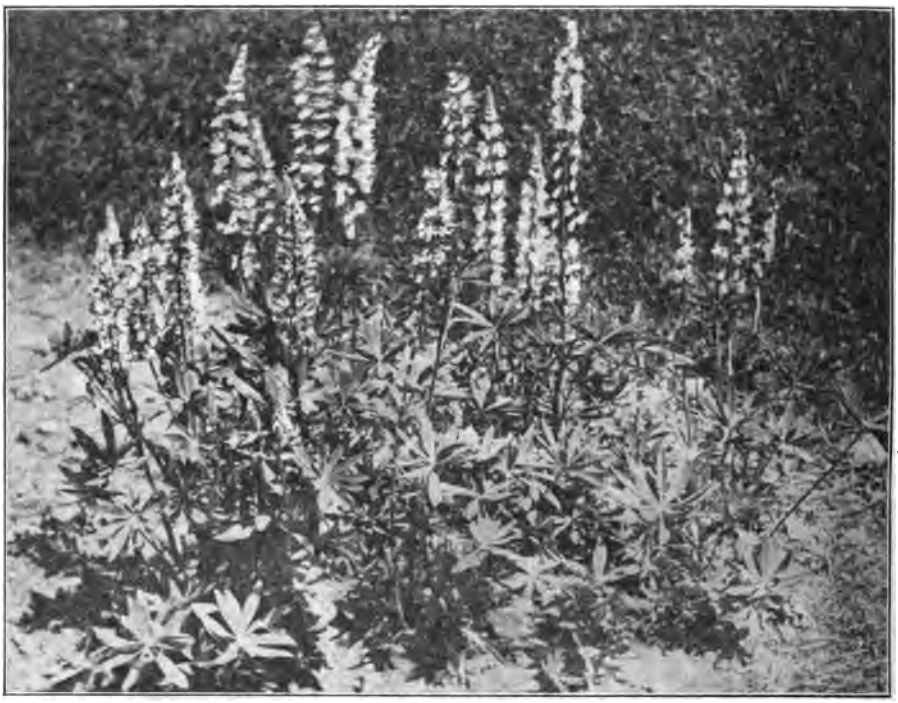
Mrs. Jenkins (*early white*)
Fraulein Von Lassburg (*large white*)
Jeanne d'Arc (*late white*)
Bridesmaid (*white, carmine center*)
Henri Murger (*white, carmine center*)
Europa (*white, carmine eye*)
W. C. Egan (*soft pink*)
Selma (*pink, red eye*)
Pantheon (*brilliant rose*)
Rynstrom (*deep salmon pink*)

Goat's-Beard (*Aruncus sylvester*), grown for its large, showy panicles of white flower and does well in a somewhat shady situation.

Siebold (*bright scarlet*)
Rosenberg (*reddish violet with red eye*)
B. Comte (*purple*)

CHOICE VARIETIES OF GERMAN IRIS

Atropurpurea (*purple*)
Fairy (*ivory white, pale violet veins*)
Florentina (*white, tinged with blue*) early
Gracchus (*yellow and crimson*) *early*
King of Iris (*yellow and brown*)
Madame Chereau (*white, tinged blue*)



Lupine (*Lupinus polyphyllus*), a very effective hardy perennial on any good garden soil, producing long spikes of deep blue flowers.

Madame Pacquette (*bright rosy claret*) early
Maori King (*rich golden yellow*)
Mrs. H. Darwin (*white, violet veins*) early
Pallida Dalmatica (*lavender, blue*)
Queen of May (*lilac, pink*)
Silver King (*silvery white*) early

ANNUALS

Annuals are always desirable on every home grounds as they are most essential in producing the best and most continuous display of flowers during the summer months. Their great variety and their adaptability to all soils and conditions as well as the many beautiful ways in which they may be used about the home grounds make them almost indispensable. As cut flowers they are the particular favorites of nearly every one and the planting of the home grounds without a few such annuals as sweet peas, asters, pansies, or nasturitums would hardly seem complete.

Annuals are also especially valuable in producing quick effects as well as for enhancing the grounds of the renter or person who has not the means to plant the more expensive perennial or permanent kinds. When planted in the foreground of shrubs or among perennial, annuals are most pleasing but it is an unfortunate mistake to grow annuals in flower beds dotted over the lawn. In the free and natural style of landscape gardening they should be planted in naturalistic beds about the borders of the home grounds and when so arranged, enhance the beauty of the entire

Cobea (*Cobaea scandens*) is one of the most rapid growing of the annual vines and hence excellent for quick effects.

grounds. They may also be appropriately placed as border plantings along garden walks, about the base of buildings or in front of walls or fences.

Annuals are fortunately very easy to grow. Almost all of them may be grown successfully by sowing the seeds of the plants directly in the permanent beds, but usually better plants are obtained by seeding them in hotbeds or cold frames or in boxes of earth in the house, from which they may later be transplanted to the beds. Frequently the plants come into blossom a month earlier when grown in this manner and hence a longer flowering season is obtained.

The kinds of annuals are so numerous that a selection is largely a matter of personal preference. The pansies, if sown in July or August, produce an excellent early spring display, while if seeded indoors in late winter and planted in a partially shaded location, they should bloom continuously during the summer. The sweet alyssum, dusty-miller, candytuft and lobelia make excellent edging plants, while for summer flower displays, nasturtiums, petunias, coxcomb, stocks, verbenia, annual phlox, poppies, salvia, zinnias and balsams are all easily grown and very effective. Portulaca is most accommodating in covering dry sandy banks and the heliotrope, marguerites, stocks and mignonette in furnishing the gardens with their delightful fragrance. For large foliage effects there is nothing to compare with ricinus or castor oil bean, while the large beau-

tiful colored flower spikes of the snap dragon compare very favorably with the beauty of any of the perennials. In late summer, the asters, cosmos and burning-bush add their brilliance to the flower display and most all of such annuals continue to bloom till the frosts of the fall dismantle their robes of beauty.

Annuals Valuable for Cut Flowers

Asters, late branching
Sweet Peas
Cosmos, early flowering
Pansies
Nasturtiums, dwarf
Mignonette
Bachelor Buttons
Zinnias
Snapdragon
Corn Flower
Heliotrope
Stocks
Dianthus

Annuals for Garden Effects

For edgings:

Sweet Alyssum
Lobelia
English Daisy
Dwarf Cockscomb
Dusty Miller
Ageratum
Candytuft

For bedding effects:

Annual Phlox
Verbena
Annual Poppies
Petunia, var. Rosy Morn
African Daisy
Marigold
Balsam
Celosia
Portulaca

Tall growing annuals:

Castor Oil Bean
Sunflower
Cosmos, late

Annual Vines

Cyperus vine
Balloon Vine
Gourd, Ornamental
Climbing Nasturtiums
Scarlet-runner Bean
Wild Cucumber
Morning Glory
Hop Vine
Moon Vine
Cobea

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U.HOLZER BINDER BOSTON MASS